**SPARK-E™ II: Live + Record**

**Features**
- Winner of the 2016 Worship Facilities Award for Best Streaming Product
- Supports both HD and SD H.264/MPEG-4 AVC encoding
- Inputs: 3G SDI HD-SDI, HDMI, VGA, CVBS, or YPbPr (one input channel at a time)
- Input resolutions up to 1080p60
- Stores input on USB dongle
- Outputs: Single IP stream through GigE port (RJ45)
- IP output protocols: UDP, HLS, RTSP, RTMP (local and publish)
- Low latency – 495 milliseconds
- Configurable bit rate up to 10 Mbps
- Multi rate, multi protocol support: Transport stream outputs can use different network protocols for transmission
- Able to scale down incoming HD streams to SD
- Supports H.264 High Profile @ Level 4.0 (HP@L4)
- Supports 1080i, 1080p, 720p, 480i
- Audio Output: AAC-LC
- Mono or Stereo output
- Video pre-processing:
  - HDMI, DVI, DVI-A/VGA, CVBS, S-Video, YPbPr: Brightness, Contrast, Hue Saturation
  - CVBS and S-Video only: Sharpness
- Tested to work with industry standard decoders
- Web-based GUI
- Companion decoder available – Spark-D™ II

**Applications**
- Digital Signage from computer with HDMI or VGA out
- Streaming video to CDNs and web sites like Ustream®, Akamai®, Octoshape™, Verizon®, etc.
- Live streaming at Religious Services, Festivals, Fairs, Lectures, Weddings, Funerals, via Wowza®, etc.
- Occasional Live streaming by Broadcasters
- Backhaul/Monitoring for Broadcasters
- Digital News Gathering
- Law Enforcement (surveillance, etc.)
- Centralcast
- Telemedicine
- On Line learning
- Hotel TV systems

**Overview**

The Spark-E™ II is a Linux® based, compact, cost effective, single channel, H.264, video streaming and recording appliance designed for streaming and storing video from live events. It is designed to stream content to a CDN or a live media server, which are the two principal ways such content is disseminated to the outside world. Thanks to compact storage, this device can store the incoming stream onto any USB device such as a “USB dongle”.

We provide one of the largest numbers of input options – including 3G HD-SDI, HDMI, component, and analog. Computer outputs are accommodated via our HDMI input port. The Spark-E II supports most popular streaming protocols including HLS, RTMP, and pure TS.

Onboard storage is very useful. The recorded content is stored as H.264 transport streams. These streams can be edited later or can be transferred via file transfer to anyone, anywhere.

This compact unit weighs just one pound, making it ideal for field production, storing, and streaming of college lectures and religious services.

**Application Example**

- Computer Modules, Inc.
  11409 West Bernardo Court
  San Diego, CA 92127
  Tel: 858-613-1818   Fax: 858-613-1815
  www.dveo.com
**Inputs/Outputs**

- **COMPONENT (YPbPr)**
- **RS-485**

**Sample of GUIs**

- **Network Setup**

- **Encoder Setup**

**Ordering Information**

Spark-E II: Live + Record
Spark-D II – Matching Decoder, DVEO Set-top box

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**Specifications**

**Inputs**

- **Video**: One BNC 3G/HD-SDI input
- One HDMI input
- One DVI-I input for DVI-D/HDMI and DVI-A/VGA
- One each BNC Analog input for YPbPr, Composite (CVBS), or S-Video (PAL or NTSC)

- **Audio**: 1x Stereo audio through
  - One RCA for Analog L/R audio
  - SDI/HDMI/DVI-D embedded audio
  - One 3.5 mm phone jack

**Video Encoding**

- **Video Compression**: H.264/AVC: Main 3.0, Main 3.1, High Profile Level 4.0
- **Input Resolutions**: 1920x1080* (p60/p50/p30/p25/i60/i50),
  1440x1050 (p60), 1360x768 (p60), 1280x1024 (p60), 1280x800 (p60),
  1280x720 (p60), 720x576 (p50), 720x480 (p60)
- **Output Resolutions**: 1920x1080 (p30/p25/i60/i50),
  1440x1050 (p30), 1440x1080 (p30), 1440x900 (p30),
  1360x768 (p30), 1280x1024 (p30), 1280x960 (p30),
  1280x800 (p30), 1280x720 (p30), 960x540 (p30),
  720x576 (p50), 720x480 (p30), 320x240 (p30)
  *Output includes down scaling
- **Streaming and Recording Bit Rates**: Configurable bit rate up to 10 Mbps
  - Record Only: Up to 16000 Kbps
  - Stream Only: Up to 12000 Kbps
  - Stream On + Recording: Up to 6000 Kbps
- **Video Modes**: VBR, CBR
- **Video Pre-processing**: HDMI, DVI, DVI-A/VGA, CVBS, S-Video, YPbPr:
  *Not available for 3G/HD-SDI
  - Brightness, Contrast, Hue Saturation
  - CVBS and S-Video only: Sharpness
- **Recording Formats**: MP4, TS
- **Latency**: 495 milliseconds

**Audio Encoding**

- **Audio Compression**: AAC-LC
- **Stereo Bitrate**: Up to 384 kbps
- **Mono Bitrate**: Up to 192 kbps
- **Sampling rates**: 48 KHz, 16 bit
- **Bit Rates**: Configurable bit rate range from 32 Kbps to 384 Kbps

**IP Output**

- **Connector**: RJ45 for 10/100 Mbps Ethernet interface
- **IP Address Modes**: Dynamic (DHCP) and Static (fixed)
- **Output**: Single HD or SD stream
- **Output “wrappers”**: TS over TCP/UDP (unicast & multicast), HLS, RTSP over HTTP/TCP/UDP (RTSP Elementary Stream), RTMP (Local & Publish)

**Administration**

- **Access**: Web interface, RS-485
- **Software upgrades**: Via IP network
- **Storage**: One USB 2.0 port for USB storage
- **Signal Detection**: Automatic
- **LED Indicators**: Booting, Signal Locked, No Signal Input, Video Recording, Video Streaming

**Physical & Power**

- **Size (W x D x H)**: 5.9 x 4 x 2.625 inches (150 x 102 x 67 mm)
- **Weight**: 1 lb. (0.454 kg)
- **Operating Temperature**: 32 to 140° F (0~60°C)
- **Power**: DC 12V (With DV Adapter)
- **Conformities**: UL, FCC, CE, RoHS